

United States Patent [19]

So et al.

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[54] OPTICAL TIME DOMAIN
REFLECTOMETER USING A TUNABLE
OPTICAL SOURCE

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[52] U.S. Cl. 356/73.1

[58] Field of Search 356/73.1

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[57] ABSTRACT

In an optical time domain reflectometer (OTDR), an optical signal is coupled to an optical fiber path to be tested, and back-scattered and reflected light from the optical fiber path is detected and used to determine loss-distance characteristics of the path. A control unit varies the wavelength of the optical signal by varying the temperature of a semiconductor laser constituting the optical source, so that the loss-distance characteristics for a plurality of different wavelengths are determined and can be displayed to show any wavelength dependent loss of the optical fiber path, which loss may be due to modal interference associated with closely spaced discontinuities in the path.

13 Claims, 2 Drawing Sheets

